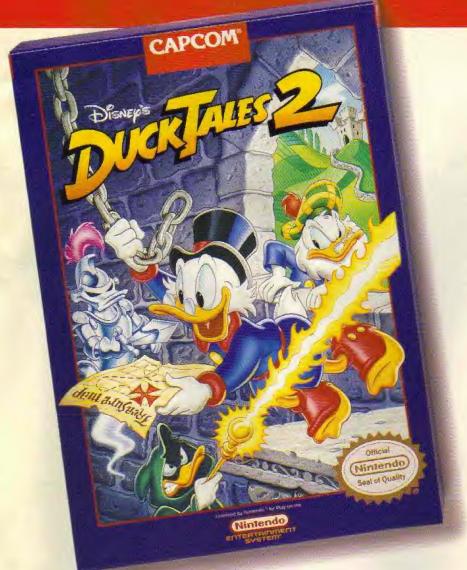
CHILDREN'S TELEVISION WORKSHOP EXPLORES THE WORLD

# CONTRACT

TINY BIRDS
ARE DIG

April 22 Clean-Up Crew
Stores That Smell
Really, Really Silly Gadgets
Puzzles, Comics-And More

Plus:



# The trail to this treasure is one a-maze-ing journey.

The twists and turns come faster than you can say Scrooge, Webby, Huey, Dewey and Louie, as the DuckTales crew searches 7 puzzling levels to collect pieces of a secret treasure map. From the Egyptian tombs to Niagara Falls, Glomgold and his evil-doer ducks will be on

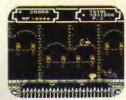
your tail feathers every step of the way. But the most amazing part of all is how much fun this journey will be.



A cane comes in mighty bandy when using the cannon to tumble a wall,



flies, Scrooge McDuck gets the jump on bim.



With his get up and po-go be avoids the tornado and bits the wizard.

Publisher Nina B. Link Editor-In-Chief Jonathan Rosenbloom Editor Curtis Stepian Art Director At Nagy Senior Editor Elizabeth A. Vitton Associate Editor Beth Chayet

Editorial Assistant Sonia Arora Photo Editor Jacqui Wong

Director of Research Magazine Group Dr. Renee Cherow-O'Leary Research Manager Vanessa Bing

Director/Creative Services Aura Marrero . . . . . . . . . . . . . . . .

Group Vice President/General

Bill Hitzig Vice President/Finance Julie K. Andersen

Vice President/Circulation Kethleen O'Shaughnessy Circulation Operations Maurger June Wick

Circlestion Marketing Manager Jane Cazzorie

Production Director Carlos N. Crosble Production Manager Carolyn Ahrens

Carolyn Airens
Assistant Production Monager
Kerry Giles

V.P. Advertising Director/
Consumer Magazines
Gall Delott

National Sides Monager Karen Siegel Gruenberg

naran Siegel Gruenberg Senior Sales Representatives Velerie Wilpon Leura Billings Maureen Cameron Sales Representatives Jill Abramawitz Lonny Weinstein

Advartising Resulted Everdinator Alecia Lane-O'Neill

ADVISORS

Ahvisous Dr. Gerald S. Lesser

Professor, (larvard Graduate School of Education

Dr. Charles Walcott

Dr. Jearl Walker

Dr. Charles A. Whilney





Award Whiner Feature

#### FEATURES

- 10 Earth Day Kids: They're Helping to Save Our Planet
- 14 Smells Sell! Scent Experts Lead You By the Nose
- 18 Goofy Gadgets!
- 22 Bird Shots: Photographing Hummingbirds Is No Snap!





#### DEPARTMENTS

TNT: Newsblasts	2
Any Questions?	4
Future File	6
Mail	7
Factoids	8
Reviews	27
The Time Team	28
Contact Lens	31
Contact Contest	37
Extra!	38
Did It	40

#### SQUARE ONE T

- 32 Totally Puzzles
- 34 Fool House: A Comic Puzzle
- 36 Special Offer: A Tasty Logic Puzzle



#### ON OUR COVER

Cover photo by Dennis Mosner. Photo of hummingbird @ Robert A. Tyrrell. The 2 1/2-inch-long Vervain Hummingbird is shown actual size!



#### **Dream Machine**

Inventor Frances Gabe never met a home she wanted to clean. So she built a self-cleaning house to do all the dirty work.

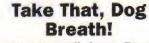
Each room in her house has a built-in cleaning machine. A machine in the ceiling sprays ammonia and water onto the walls. Another machine washes and dries the floor. Total cleaning time: five minutes flat!

But doesn't everything get soggy? Nope. Gabe has designed waterproof shields that pull down like window shades over her stuff. Some furniture is on wheels so it can be rolled out.

Gabe, who lives in Newberg, OR, also invented a closet that washes and irons clothes at the press of a button. Even her kitchen cupboard is put to work: It's really a built-in dishwasher.

"The dirty dishes are automatically taken off the table, and put in the dishwasher," Gabe explains. "You never have to unload the dishes and put them back in the cupboard." They're already there! Maybe Mrs. Gabe should be called Mrs. Clean!





Attention all dogs: Don't eyeball a Texas horned lizard. Otherwise, look out! You just might get an eyeful of blood.

Horned lizards can squirt one-fifth of their blood supply out their eyes, say some scientists in Arizona. After many experiments with horned lizards and a dog named Dusty, they found that the

lizards "see red" if they're

under attack.



Whenever Dusty scared a lizard, it squirted the dog with blood. This made Dusty jump back. While the dog wiped its mouth on the grass, the lizard made its getaway.

How does the horned lizard give this eye-popping performance? The lizard forces more and more blood to flow into its eyelids until...blast off! A vein pops and blood spurts out more than six feet. Now that's an eye-opening sight!



#### **Green Jeans**

Sally Fox is very picky when it comes to cotton. It has to be pink, brown or green. But she doesn't buy this colored cotton. She grows it.

Years ago, a friend from the U.S. Department of Agriculture gave her a bag of old seeds. He said American Indians used the same kind of seeds to grow colored cotton.

Fox planted them in her California fields. The colored cotton bolls bloomed. She then crossbred the plants with white cotton so they'd be more like today's cotton. The result was "Earth-friendly" cotton that doesn't have to be dyed or bleached. (The natural colors already have a cool faded look.)

Some clothing companies are now picking the cotton for their T-shirts and jeans. Why? Because it bolled them over!



#### **Body Heat**

Think quick: What's your normal body temperature? If you think it's 98.6 degrees, think again.

Doctors at the University of Maryland found that everybody's average temperature is different. One person's average daily temperature could be 96, another's 99.9.

The doctors also proved that body temperature changes constantly during the day. For example, your temperature is lowest at 6 a.m. and highest between 4 p.m. and 6 p.m.

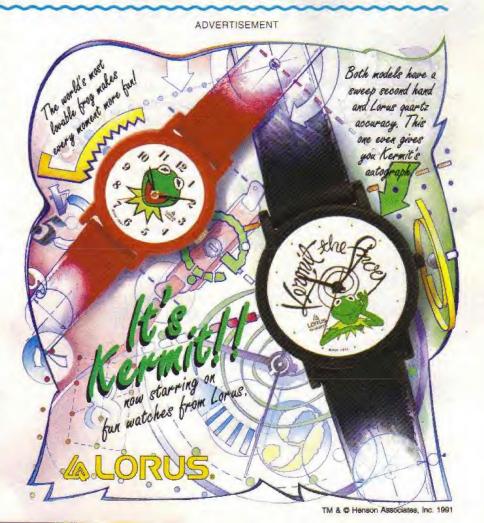
So who's hot and who's not? It just depends!

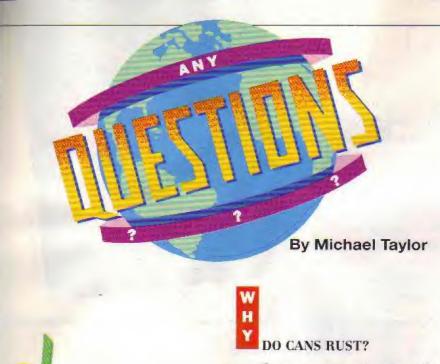


#### So What's New?

You tell us and you'll get a nifty CONTACT T-shirt— if we print your story. Send us any science story from the news that you think our readers would like to know about. (Be sure to tell us your T-shirt size and where you heard the story.) Send to:

TNT 3-2-1 CONTACT Magazine 1 Lincoln Plaza New York, NY 10023





If you see a rusty can, it has to have some iron in it. Only items made with iron rust.

So why does iron rust? Blame oxygen. Oxygen slowly combines with iron to form iron oxide. This reddish-brown substance is rust. Water also has to be around to make a mess of metal. That's why iron objects quickly become rusty in wet places or damp air.

To see rust in action, try this: Put some tablespoons of water in a plate and add a few drops of vinegar.

Place a nail on the plate and cover it with a glass. In just a few hours, you'll see rust start to form on the nail! (The vinegar speeds up the rusting.)

What's bad about rust is that it eats away,or corrodes, things. This makes the metal weak. With enough time, rust can turn any piece of iron into powder.

But don't worry. Before your bike becomes a pile of rusty dust, just scrub off the rust with water or cleaning powder and wipe it dry.

Question sent in by Christina Perdue, Edinburg, TX.

## DO YOU GET A BLACK AND BLUE MARK?

Wham! Remember the last time you banged your knee? Chances are you got a black and blue mark.

When you bump yourself, tiny blood vessels beneath your skin break. Blood leaks out and collects in the surrounding tissues. Since the blood can't get oxygen, it turns purple or blue. Over time, it changes to brown, green and, finally, yellow. The changing colors mean the blood cells are dying and breaking down. Afterwards, the body washes away the clotted blood and the bruise is gone.

But if the area has become swollen—with blood and fluid from broken tissue—the bruise is going to take a bit longer to disappear. If the swelling is in a place where bone lies near the surface, such as your shin or head, it has nowhere to go but outwards. So a large bump pops up. To stop a lump before it starts, put an ice pack on your bruise. This keeps blood out of the bruised area. So putting it "on ice" can make it look nice!

Question sent in by Mandy Russell, Altamonte Springs, FL.





DID SATURN GET ITS RINGS?

It got married! Actually, no one is really sure how Saturn got its rings.

From Earth, using the most powerful telescopes, astronomers can see as many as six rings around Saturn. But when the spacecraft *Voyager 1* reached Saturn in November 1981, it sent back pictures. The pictures showed *thousands* of rings orbiting Saturn.

From a distance, the rings look like the grooves in a phonograph record. They are made up of icy rocks, mixed with ash and dust. Some of the chunks are as small as your fingernail—others are bigger than a house!

No one is sure how they got there. Some scientists think the rings might be dust and rocks that never clumped together to form a moon. Others think that the rings might be the leftovers of a moon that broke apart while orbiting the planet. These pieces, they say, could have circled the planet until gravity pulled them into a ring shape.

Question sent in by Louis Elrod, Morton, IL.

#### DO 3-D GLASSES WORK?

Ever try to watch a 3-D movie without those special glasses? You may think you're seeing double. Well, guess what? You are!

Normal movies are shot with one camera. 3-D movies are shot with two cameras. The cameras are placed side by side, about as far apart as the distance between your eyes. Each camera shoots the same picture but from slightly different angles.

When you see a 3-D movie, the film from both cameras is being shown on the screen at the same time. That's why you see double without the glasses. You're seeing both images.

The trick is to get your left eye to see the film shot from the left camera and to get your right eye to see the picture shot from the right camera. To do this, special filters are used. The filter allows each eye to see

only one image.

Then your brain thinks you're seeing as you normally do.

Where do these filters go? On your eyes! They're the weird glasses you wear at a 3-D movie.

Question sent in by Jennifer Ball, Lancaster, NH. that no one seems able to answer?

Iny not ask us? Write to:

Any Questions? 3-2-1

Contact, P.O. Box 40, Vernon,







#### IS SUM-THING WRONG?

Dear CONTACT.

In your November '92 issue there was a Square One TV puzzle called "Space Add-venture." You said that the answer was 15 + 18 + 23 + 44 = 100. But the answer I got was 23 + 33 + 44 = 100. Is that correct too?

Danielle Elson Southboro, MA

Good work, Danielle. The three numbers you chose do equal 100. However, the puzzle asked for you to pick four numbers. But thanks for sharing your add-venture with us.

#### WAY DOWN UNDER

Dear CONTACT,

In "Awesome Aussie Animals" (November '92), there was a mistake. Tasmania was not included on your map as being part of Australia. I lived in Australia, and Tasmania is a state there. It is an island south of the continent of Australia.

Matt Couto Tucson, AZ

You're right, Matt! Tasmania is the island state of Australia. And it should have been included on the map. Millions of years ago, Tasmania split off from Australia's mainland. It is now separated by water.

#### A COLD FACT

Dear CONTACT,

I think you made a mistake in the November '92 issue. One of the Factoids said "Triton, a moon of Neptune, is the coldest known place in our solar system." I thought Pluto was.

Allison Harvey Wautosa, WI

Allison, Pluto's surface temperature averages 355 degrees F. below zero. But the lowest measured surface temperature of Triton was

391 degrees F. below zero. This makes Triton the coldest object in the solar system.

#### SIT DOWN!

Dear CONTACT,

In the Extra! puzzle "Crazy Cars" (November '92), you said the winner was "Petal Power." But the last clue says "Two people are sitting in it." And in the picture, one person is standing and one is sitting.

Jon Elkin Mill Valley, CA

Jon, the editors at CONTACT give you a standing ovation for noticing this mistake.

#### HEADLESS WONDER

Dear CONTACT.

My favorite Factoid in the November '92 issue is how a cockroach can sometimes survive without a head for several weeks. Is this true? If so, how can it survive without a head?

Elissa Mancini Houston, TX

According to bug expert Dr. Donald Cochran, cockroaches can survive for awhile without a head. That's because many of their body systems, like breathing, function without the brain's help. There are other insects that can go headless for about a year!

#### WE WANT MAIL!

Dear Readers.

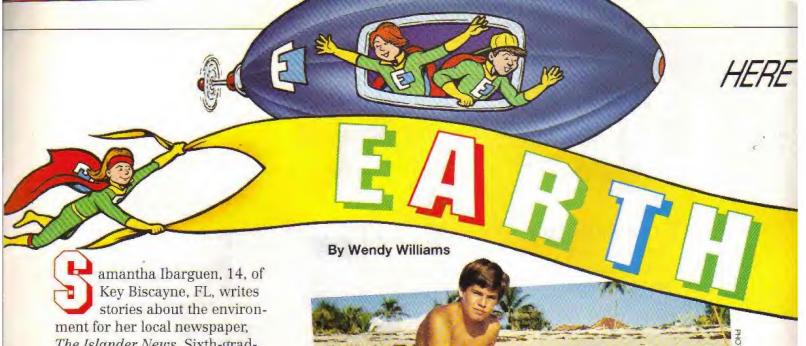
We love hearing from you. Your questions and ideas help us make CONTACT a better magazine. So why not drop us a line? We can't answer every letter, but we do read them all. Send your mail to:

3-2-1 CONTACT: Letters P.O. Box 40 Vernon, NJ 07462









The Islander News. Sixth-graders at the Holy Name School in San Antonio, TX, recently asked a toy company to make its plastic toys recyclable.

Twelve-year-old Jason Smith belongs to a kids' group in Seattle, WA, that plants trees and tests for water pollution in Puget Sound. At Tecumseh Elementary School in Xenia, OH, kids go to the "land lab" behind their school to dump their food scraps into the compost heap.

Meet the clean-up crew for planet Earth!

In a recent survey of 10,000 kids, a whopping 7,500 said the environment was their biggest worry. For them, every day should be Earth Day. It's not surprising then that kids all over are working to save the environment. Here are just a few of these Earth Day kids.

#### **Turtle Alert**

The sun is just coming up in West Palm Beach, FL. Most kids are still in bed. But not 15-yearold Christian Miller.

For the last seven years, Christian has been a member of a local sea turtle patrol. Twice a day, during the May to October turtle nesting season, he patrols a stretch of beach near his home.

"I follow the tracks back to the sea turtles' nests," Christian told CONTACT. "Then I check the nests to make sure they're protected."

And there's lots to protect the turtles from. Like the high tide, for instance. "High tides

can bury the nests and drown the turtles," Christian explains. "So I dig out the eggs and rebury them in a safer place."

Christopher Miller

turtles step in the

right direction.

helps baby sea

MILLER

Neighborhood dogs who eat turtle eggs are also a big problem. Even when the turtles hatch, there are dangers. For example, the baby turtles can get trapped under the weight of their hatched egg shells. "I try to rescue them before they die," Christian says. "Then I release them in the ocean."

Over the last seven years, Christian figures he has helped 14,000 baby sea turtles make it safely to the ocean! "The babies wouldn't have survived without help," he admits. "Sea turtles are endangered. So I feel like I'm really giving something back to the Earth."



# THEY COME TO HELP SAVE OUR PLANET

#### Hope for KOPE

Kids at the Hawthorne
School in Salt Lake City, UT,
could say the same thing. They
started a club called KOPE—
Kids Organized to Protect the
Environment. For the last three
years, they've been working to
turn a polluted creek bed into a
nature park.

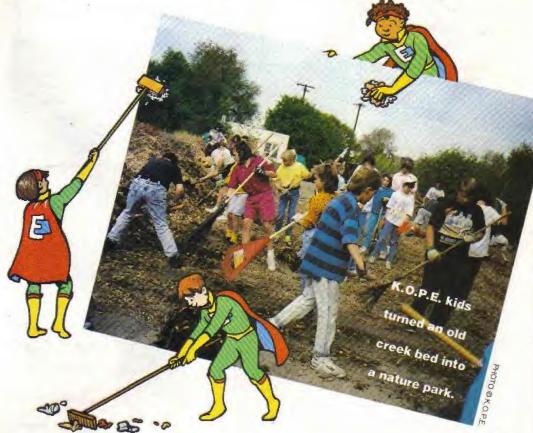
Half hidden in trees, the creek was full of tires, cement blocks and trash. The kids named the place "Hidden Hollow" and decided to clean it up. At the first clean-up event, 300 kids showed up to volunteer!

"We wanted a place where kids can study plants in their natural environment," 10-yearold Tami Curtis told CONTACT.

The KOPE kids then learned that land developers had plans to turn the area into a parking lot. So they organized a "Hope for Hidden Hollow Conference." They invited kids from schools all across the city to help save the Hollow.

"We made a slide show to let people know what was happening," says Tami. She gave the developers a tour of the area to get them to change their minds. That didn't work. But the KOPE kids didn't give up hope. They signed petitions, talked to local business people and went to city council meetings. And guess what? The council agreed to turn the area into a park! This spring, the kids will help plant shrubs, trees and flowers in the three-acre nature park.

"We didn't give up because we wanted a better place to live," says Tami. "I think our work shows other kids that they can make a difference."



WANNA BE

AN ECO-KID?

THEN PITCH IN!

APRIL 22

IS EARTH

DAY



Rebecca and Phillippa Herbert of West Covina, CA, have also done tons for their neighborhood.

The two sisters discovered that many of their neighbors weren't recycling their trash. People thought it was a hassle to take the garbage to a local recycling center.

"So we thought, 'What if we start a recycling center in our front yard?'" Rebecca says. "That way, it would be easy for people to recycle."

Rebecca, 11, and Phillippa, 13, handed out information flyers in their neighborhood. The flyer said "Please help us recycle and save the Earth." It told when their center would be open. And it included tips on how to separate trash.

"We got cardboard boxes and labeled them Glass, Newspapers and Metals," Phillippa explains. "Every Saturday, we sat by the boxes and waited for people to drop off their trash."

The girls would then bring the boxes to a local recycling center. But they don't recycle trash in their front yard anymore. Their neighbors now do it on their own. Thanks to the girls, people recycle tons of stuff that otherwise would end up in landfills.



#### What's Up?

Kids at the Upper Bucks Vocational Technical School in Pennsylvania believe in kid power, too. They're building an 85-foot-tall windmill—right in front of their school!

The kids have high hopes for the windmill. They say it will produce enough electricity to power the electronic bill-board in their school cafeteria, as well as their school radio station!

They also plan to use solar energy to help the windmill produce even more power. "We're going to put up solar panels at the base of the windmill," says Jason Overholt. He's one of the student builders. "That way, we can also power the lights in our parking lot."

The windmill will save lots of energy, Jason told CONTACT. "Plus, windmills don't pollute the environment."

#### S.T.O.P. Starts

Lots of kids are pollution busters. Just ask Russell Essary, 11, of Forest Hills, NY. He and his younger sister Melanie have about 12,000 kids across the U.S. helping them solve pollution problems. They're all members of KiDS S.T.O.P.

Russell first started KiDS S.T.O.P. to battle the shrinking of the ozone layer. (The ozone layer is an invisible shield that protects Earth from the sun's harmful ultraviolet rays.)

Russell found out that the



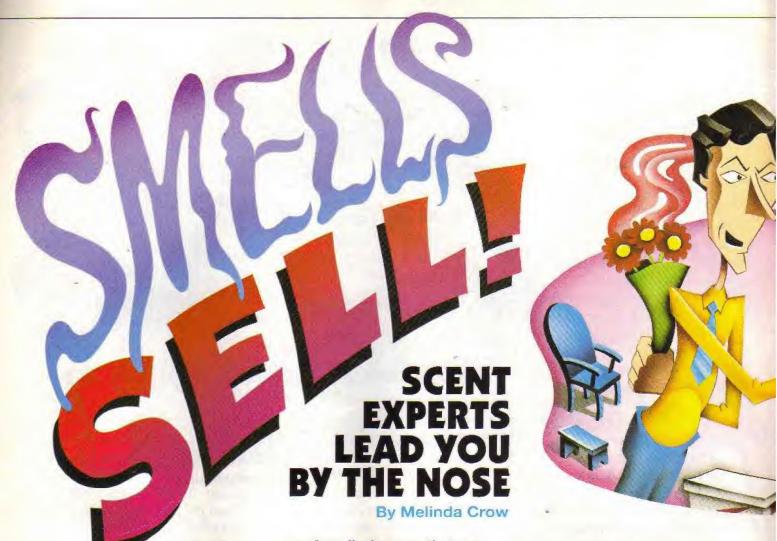
coolant in air conditioners is made of chemicals called CFCs. CFCs destroy the ozone layer. So KiDS S.T.O.P. got to work. They helped get a state law passed. Now all air conditioning fluid must be recycled. (That way, CFCs aren't released into the air.)

When Senator Al Gore (he's now Vice President) heard

about the state law, he wrote to KiDS S.T.O.P. "He wanted to make it a national law," Russell says. And that's what happened. It's part of the 1990 Clean Air Act. Better still, CFCs will soon no longer be used.

There's no stopping the ecokids. As Melanie told CONTACT, "If kids don't save the Earth,





You're standing in the cereal aisle at the grocery store, searching for your favorite brand. Suddenly, you catch a whiff of —Mmmmm!—chocolate-chip cookies. Your mouth begins to water. You forget about cereal and head for the bakery section.

Guess what? You just walked into a trap—an odor trap! The yummy smell was fake. The odor was cooked up by scientists in a lab, then spread by the store's owners to lure you to the bakery section.

Unfair, you say? Then read on, as CONTACT sniffs out the story...

#### **Dollars and Scents**

For years, scientists have been studying the special powers of smells. It seems that our noses and our brains are very closely connected. When you smell something, the odor goes up your nose to smelling zones. From here, sense cells send nerve messages to your brain telling it what you smelled.

More than our other four senses, our sense of smell changes our mood and helps us remember things. If you were told to think about popcorn, you'd probably recall its smell. And then you might remember the movie you saw while eating it. Our sense of smell also helps us sniff out danger—like the smell of smoke. And it can make your mouth water from just one whiff of food!

If smell is so powerful, say store owners, then maybe it can also sell products. So businesses have begun spending thousands of dollars to scent entire stores. Fake scents are being used to lead customers by the nose. These bogus odors help to get people inside and put them in the mood to buy. They even make customers remember the store later, so they'll come back for more.

Some business people predict that in 10 years, store smells will be as common as the soft music





stores often play to put shoppers in a good mood.

#### Hidden Pellets and Goo

J'Amy Owens designs stores for a living. To keep up with the new trend in store odors, she recently began including "fragrance planning" as part of her store design. She believes each store should have its own special smell.

For a kids' cloth-

For a kids' clothing store in San Francisco, CA, for example, she's using the smell of cinnamon and hot apple spice. She hopes shoppers will end up thinking these kids clothes are as American as apple pie!

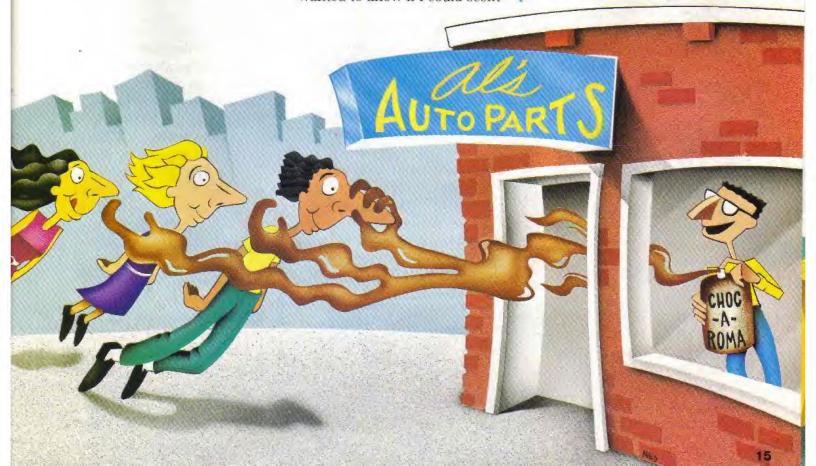
Sometimes J'Amy gets some pretty weird requests. "The owner of a fast-food restaurant wanted to know if I could scent the speaker at the drive-up window," she says.

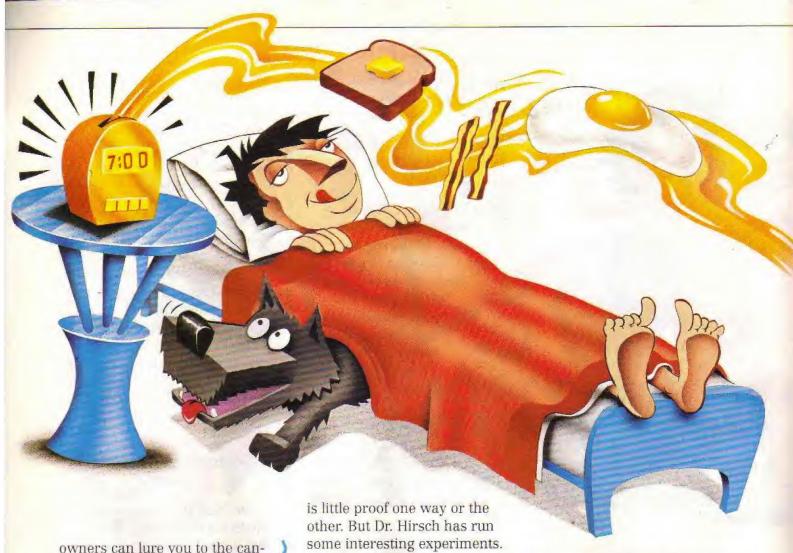
J'Amy spreads the store scents secretly, using little balls soaked in fragrance. She hides them in light fixtures and heating pipes. If that doesn't give off enough odor, she puts in a small heater. This warms up the scented goo. A fan then spreads this smell throughout the store.

Other stores use computercontrolled machines to carry the smell out through the store's air vents. Getting the right amount of odor in the air can be tricky. When Steven Schultz first started using peach fragrance in his discount store in Louisville, KY, the whole place ended up smelling like a peach warehouse.

#### Something Smells Fishy

Dr. Alan Hirsch designs smells for businesses. He says that it doesn't take a whole lot of smell to affect you. Store





owners can lure you to the candy aisle—even if you don't realize you're smelling candy! This idea scares a lot of people. Groups that protect the rights of shoppers are upset. They say the stores are using a kind of brain-washing, which they call "smell-washing."

"It's pretty sleazy," says Mark Silbergeld. He runs an organization that checks out products for consumers.

The scientists hired to design the scents disagree. "There's mellow background music, there's neon lighting, there are all sorts of bells and jingles being used," says Dr. Hirsch. "Why not smells?"

One reason why not, says Sibergeld, is that some people are allergic to certain scents pumped into products or stores.

But there's a whole other side to this debate. Do the smells really work? So far, there In one of Hirsch's experiments, 31 volunteers were led into a sneaker store that smelled slightly like flowers. Later, another group shopped in the same store, but with no flower odor.

Dr. Hirsch found that 84 percent of the shoppers were more likely to buy the sneakers in the flower-scented room. But Hirsch found out something even stranger.

"Whether the volunteers liked the flower scent or not didn't matter," Hirsch says. "Some reported that they hated the smell. But they still were more likely to buy the shoes in the scented room."

## Who Nose the Future?

Using smells to sell products isn't new. In 1966, a company added lemon fragrance to its dish detergent. They wanted people to think the soap contained "natural" cleaners. It worked! Today, businesses spend over a billion dollars a year just on product odor.

Some companies have already discovered ways to make microwaveable foods smell good before they're cooked. They scent the packages. Smell for yourself. Next time you pop a bag of microwave popcorn, smell the bag before you put it in the microwave. Chances are, it already smells like popped corn.

New uses for smells are being created every day. One bank, for example, gives customers coupons advertising car loans. To get people to take out a loan, bank officials hope to coat these coupons with the fresh leather smell of a new car. In Australia, companies are putting sweat odor on unpaid bills. Since some people sweat when they're scared, this smell might remind them of when they were frightened. And they'll pay the bills right away!

What lies ahead for our noses? Smell scientists are working on some pretty far-out ideas. Would you believe TV sets that produce smells? Or how about odor diets? Certain food smells will fool your stomach into thinking it's full.

Alarm clocks will scent your bedroom with an aroma designed to wake you up. Scientists are even working on ways to keep garbage from stinking. Researchers expect scents to one day help students make more sense of what they're learning.

And just think. Someday soon, even your homework may smell nice! ◆

# HOW TO MAKE A SMELL

Smell scientists say smells can help us in all sorts of ways. Here are a few tips from the experts:

- 1. To help you sleep, scent the area around your bed with lavender or vanilla. These aromas will help make you feel more relaxed and drowsy.
- 2. To help keep awake in class, take along something scented with peppermint to sniff. It's been shown to make people more alert.
- 3. To help you remember what you studied last night, assign a different pleasing fragrance to each subject. (Fruit-scented markers and erasers are perfect for this.) Take a sniff or two of the aroma while you study, then again in class.



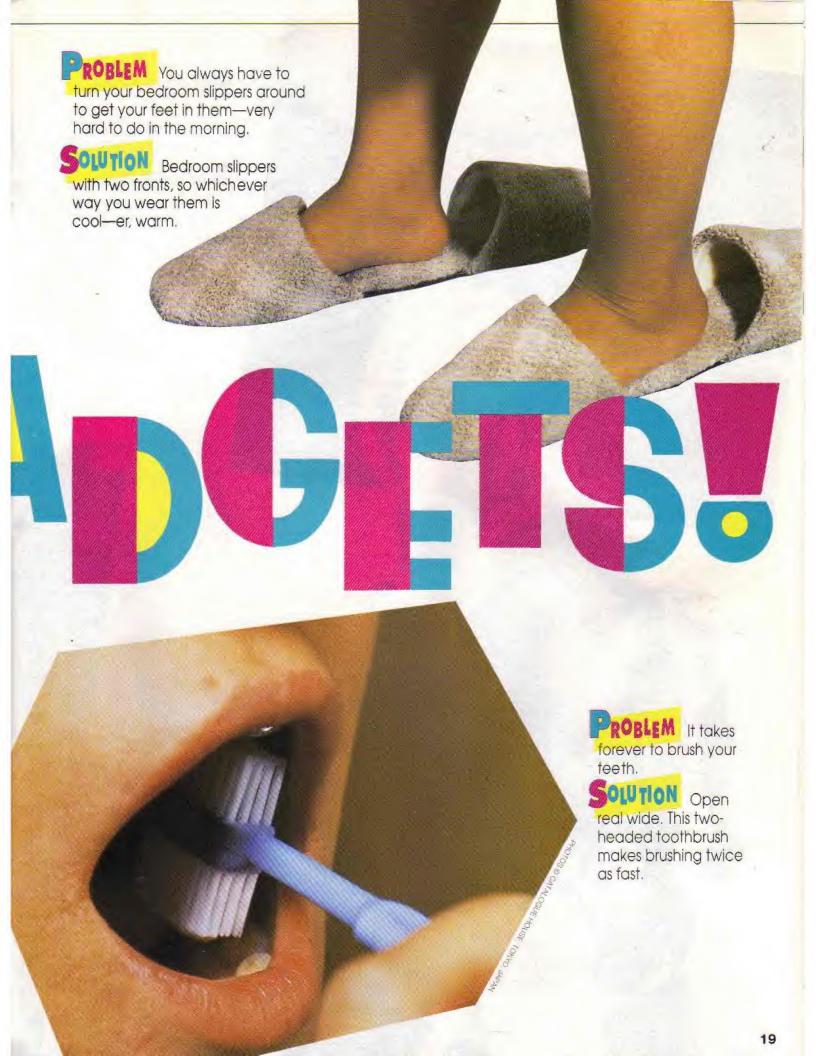
ou've heard of the Clapper?
It's an invention that turns the lights on and off when you clap your hands. Well, the Clapper is a totally serious machine compared to

the inventions on these pages. Japanese artists and designers created the gadgets as a goof.

Most inventions make life easier for people. But these inventions just

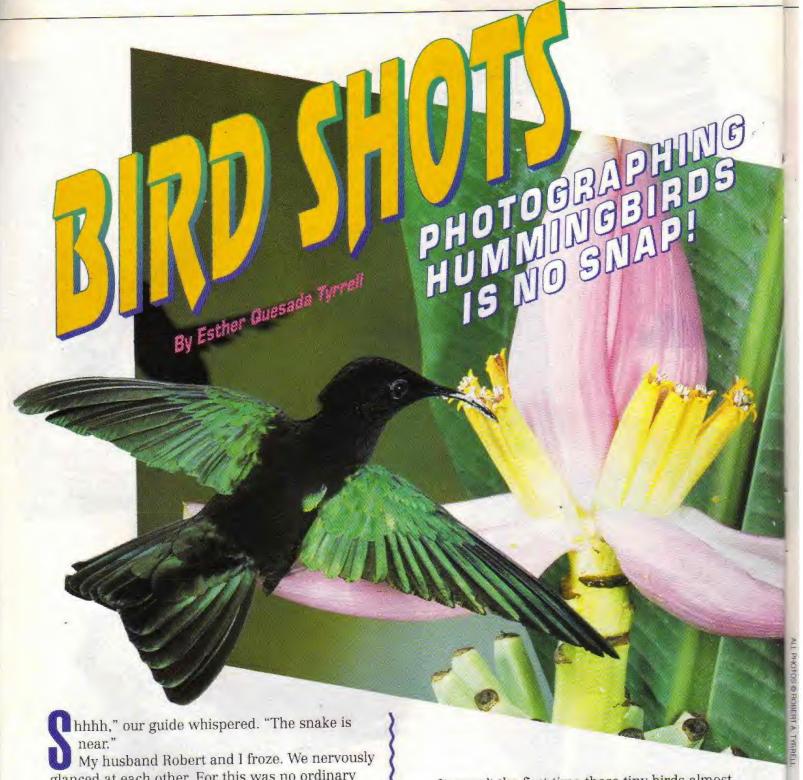
make people laugh.











My husband Robert and I froze. We hervously glanced at each other. For this was no ordinary snake. It was a seven-foot-long fer-de-lance. And very dangerous. If you survive its deadly bite, any hairs on your body will turn white—permanently!

Using machetes, we had been hacking a pathway through the thick jungle of Martinique—an island in the Caribbean Sea. We were here to find hummingbirds. But at that moment we didn't notice anything except for signs of a deadly snake.

We carefully tiptoed our way back out of the jungle. Once we safely escaped, we breathed a huge sigh of relief. Our hunt for hummingbirds would have to wait until tomorrow.

It wasn't the first time those tiny birds almost got us in trouble. And it won't be the last.

During the past 17 years, Robert and I have traveled more than 80,000 miles through some of the world's most dangerous jungles and swamps just to study and photograph hummingbirds.

#### **Treasure Hunters**

Our work is definitely unusual. We've suffered from incredible heat and humidity on tropical islands. We've lugged 400 pounds of photographic equipment up muddy slopes and into crocodile A Ruby-throated Hummingbird burns up so many calories that it has to eat every 15 minutes.

swamps. And we've dodged thousands of bats at dawn in wet rain forests just to get a picture.

Why do we risk our lives to find hummingbirds? Because they're the most incredible birds in the world.

Hummingbirds are called "flying jewels" because their brightly-colored feathers look like gems. In fact, there's a hummingbird named for almost every jewel in the world. So, in a way, we're treasure hunters.

The treasure hunt started 17 years ago. That's when Robert saw a hummer in his mom's backyard. He was fascinated with the way it could "hover," or fly in one spot, for a long time.

As a professional photographer, he thought it would be a snap to get a picture. But he didn't know that the hummingbird's wings were beating about 80 times a second! So when he looked at the photos the next day, all he saw of the wings was a blur. This wasn't going to be so simple, after all.

But Robert didn't give up. He was determined to "stop" the whirring wings on film. He just didn't know it would take him six years to do it!

Since then, we've learned a lot about hummingbirds. For one thing, they're the smallest birds on Earth. Many are about the size of a stick of gum. And some can weigh less than a penny. Finding one is even harder than spotting Waldo!

This Bee Hummingbird—
the smallest bird in the world—
weighs less than a penny!



Robert and I aren't adventure-seekers. It just happens that most hummingbirds live in out-of-the-way places. Neither of our parents ever took us camping. In fact, as kids, each of us had spent exactly one night outdoors.

So on the very first day of our very first trip to the Caribbean, we knew we were in for it. We had come to Puerto Rico to photograph a hummingbird called the Puerto Rican Emerald. The bird lives in *El Yunque*, Puerto Rico's national rain for-

est. There I met two girls who lived nearby. When a silvery lizard darted past, I screamed. The girls laughed and one of them picked it up. She opened its mouth wide and hooked it onto her ear—just like an earring! The lizard hung on calmly and didn't bite. The girls told me all the kids wear them when they go to parties.

That next morning, Robert and I went with a guide to scout out hummingbirds in *El Yunque*. Hummingbirds don't travel in flocks. They're loners. So the best way to find one is to search for a patch of red flowers with thick, trumpet-shaped petals.

Why red flowers? Because hummingbirds know that some red flowers have a lot of nectar. (Nectar is a sugary liquid that hummingbirds eat.)

We found some brilliant reddish-yellow flowers called Parrot's Plantain. We quietly waited nearby. A few hours later, a Puerto Rican Emerald showed up for dinner. But we didn't start snapping photos right away. Hummingbirds are so tiny that you need special photo equipment, which takes a few hours to set up. So we first find the bird

and then come back with

the equipment.

How do we know if the bird will return? We don't! But if a hummingbird finds nectar, it will usually come back for more. (It's just like going back to your favorite restaurant.)

#### Say Cheese!

The best time to photograph hummingbirds is at dawn. So we usually wake up at 2:00 a.m. to set up the equipment. Imagine lugging hundreds of pounds of equipment through a dark rain forest. And you can't see what scary things are roaming around in there. (A rain forest has no street lights, but, believe me, at times I wish it did!)

We use strobe lights to freeze the bird in motion. Since its wings move superfast, high-speed strobes

are needed. The strobes flash in just 50 millionths of a second—much faster than ordinary flashes.

These strobes are very dangerous. Each one is packed with 2,500 volts of electricity. Robert can get electrocuted if one tiny drop of rain hits the equipment! That's bad news in a rain forest, where it can be sunny one moment and start pouring the next. So the minute we even think it's going to rain, we cover the equipment.

One of our most exciting adventures was searching for the Bee Hummingbird on the island of Cuba. We spent three weeks in a very hot and muddy crocodile swamp looking for this two-inch-long bird.

We had a tough time spotting the birds, but we did see tons of crabs. We just happened to be there during the annual crab migration. Thousands of female crabs make the long journey from the swamp to the sea to lay their eggs. They were so determined to get to the ocean that they crawled over everything—including fences and houses!

When we finally saw the Bee Hummingbird for the first time, we thought it was a bee! Its size and speed make it tough to photograph. But worse, the Bee Hummingbird feeds from flowers in 100-foot-tall trees.

No problem. We set up a hummingbird feeder. (Basically, it's a glass bottle filled with sugar water.) Pretty soon the humming-bird came down to try this new drink. And it loved it! It stayed long enough to have its picture taken many times.

Robert wanted to show how small this hummer was. He noticed that it liked to sit on a branch in front of the feeder. So he glued a pencil to the perch. When the bird flew back to take another sip, he landed on the eraser. Snap! We got it! We also took its picture

sitting on a penny and a ruler. We were so pysched! We ate roasted crocodile that night to celebrate.

Is a photograph worth every mosquitobitten, sweaty moment? You bet. The best things in life *do* come in small packages.



#### IT'S A FACT! Hummingbirds are the world's smallest Hummingbird eggs are smaller than birds. The smallest hummingbird is coffee beans. 2 1/4 inches long. The largest is 8 1/2 There are 338 species of hummingbirds. inches. Sixteen species live in North America. Hummingbirds can fly forwards, backwards-even upside down! Hummingbirds have been named after the noise their flapping wings make. In the Caribbean, people call the bird el zunzun (say: L ZOON-ZOON) A hummingbird will eat up to half its weight in a day. (If you burned energy as fast as a hummingbird, you'd have to A hummingbird's heart can beat from eat 155,000 calories a day. That would 500 to 1,200 times a minute. (A human heart beats about 70 times a be like eating 285 pounds of hamburger a day!) minute.) Slurp! Hummingbirds must stick out their tongues to lick up nectar. They take about 13 licks





ou don't have to trek through a jungle to see one of these flying jewels. They're all over the U.S. All you need is a hummingbird feeder.

• Buy a saucer-shaped bird feeder at a pet shop. If you want to attract lots of hummingbirds, make sure you have more than one feeder. Hummingbirds don't like to share!

• Fill the feeder with sugar water. (Never use honey or a sugar substitute, because it will hurt the bird.)

• To make sugar water, first boil water. (Ask an adult to help you.) Then dissolve sugar into it. You will need four parts water to one part sugar.

• Wait for the liquid to cool and then fill the feeder with it. Hang the feeder in a sunny spot.

Once a week, you should clean the feeder very carefully. (Soak it in a bucket of soapy water and a tablespoon of bleach.) Scrub the feeder well and then rinse it thoroughly.

• If your feeder isn't red, add red food coloring to the sugar water. Hummingbirds are attracted to the color red. To keep ants away from the sugar water (they love it too!), coat the wire from which the feeder is hanging with petroleum jelly.

Then sit back and wait for one of these little gems to stop by for dinner.

#### BOOKS

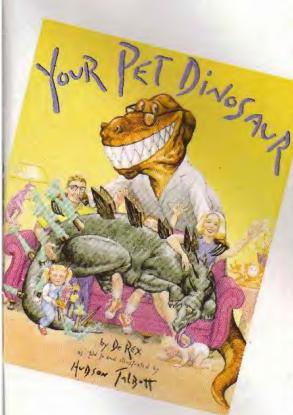
By Beth Chayet

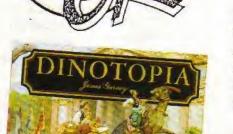
#### Your Pet Dinosaur

by Dr. Rex

Morrow Junior Books, \$15.00

This hilarious handbook is for anyone who ever wanted a dinosaur for a pet! It tells would-be dino owners how to choose, feed and housebreak these humongous pets. There are even tips on dressing your dino with style. This outrageously funny book will make you wish you could find a prehistoric pet store.





#### Fossil Follies!

by Rick & Ann Walton Lerner Publications, \$11.95

What do you call 100 dancing dinosaurs? An earthquake!

Yuk! Yuk! This book is packed with more than 50 ribtickling dinosaur jokes. Each page will have you laughing. Plus, there are silly cartoons that double the fun.

#### The Great Dinosaur Atlas

by William Lindsay Simon & Schuster, \$14.95

Why did some dinosaurs swallow stones? When was the word "dinosaur" first used? Which were the longest, heaviest and fastest dinosaurs? These questions and many more are answered in a book that's fun to look through. Each page is filled with lifelike pictures. They bring you face to face with the dinosaurs that ruled the Earth for more than 150 million years.

### Dinotopia: A Land Apart from Time

by James Gurney

Turner Publishing, \$29.95

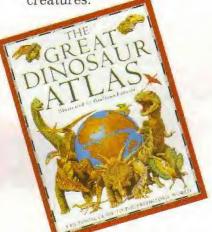
Travel to a land where dinosaurs and humans live together in peace. It's the lost island of Dinotopia. Here, people fly on the backs of Pterosaurs. And dinosaurs talk, make music and play sports.

In this amazing story, a father and son explore Dinotopia. And they discover that it's a place where people look after dinosaurs and dinosaurs look out for the people. Dinotopia is imaginary. But the author's words and beautiful drawings make it come to life.

#### Stegosaurs: The Solar-Powered Dinosaurs

by Helen Roney Sattler Lothrop, Lee & Shepard Books, \$15.00

The Stegosaurus had a huge body, tiny head and plates running down its back. Find out why these strange-looking animals with brains the size of Ping Pong balls were able to outlast many other prehistoric creatures.





hat a bodacious sauropod!"
"Careful, Sean, or he'll step on you."
Jenny Lopez was worried. But not Sean
Nolan. He thought he could fake out that lumbering
dinosaur.

Sean and Jenny weren't in a dinosaur theme park. They were in prehistoric times. Jenny's tachyon machine had taken them there. Jenny had made the device for a science fair. When Sean dropped it, the device worked as a time machine. It took the teens into the past or future. And it returned them to the time and place they left from.

"I wish we could control where the machine sent us," said Sean. "Then I'd come here every time."

As the Time Team edged its way around a lake, Jenny saw a dinosaur lurking near some trees. It looked like a meat eater, with big, sharp teeth.

"Sean, stay close." Sean barely listened. He had noticed some large eggs lying near the lake. He picked one up and rubbed the smooth shell. "Oh wow! This is the biggest egg I've ever seen."

The ferocious-looking dino had spotted the teens. "We might have to beam out of here," Jenny said nervously. She took out the tachyon machine.

Now the prehistoric killing machine made its move. It scrambled towards the teens. Sean looked up from his egg. "Yikes!" The dino was 20 feet away and closing in. In another second, it would be inside the range of the tachyon device. It would travel in time with the teens. Jenny pressed the button.

The teens returned to where they started the trip, in Jenny's room. Jenny was shaken up. Sean was also upset, but for a different reason. He still had the prehistoric egg in his hand.

Sean put it behind his back. He didn't want Jenny to see the egg. Otherwise she'd have a mega cow. Jenny thought bringing stuff back to the present could mess up history.

#### Hatching an Idea

"Pretty wild trip," said Sean. "I'll, ah, see you tomorrow at school." He backed out of Jenny's room and walked home. What to do with the dinosaur egg? By the time Sean got home, he had a solution: He'd hatch the egg!

At home, Sean said "Hi" to his parents and went into his room. He put the egg on his bed. Then he picked up some books on animals. After a few minutes, he cried, "Aha!" A book described how alligator eggs were hatched on alligator farms.

"Alligators...Dinosaurs. Same difference!" He lined a plastic box with moss, grass and dirt. Sean placed the egg in the box and covered it with more plants. He sprinkled water on top, then put the box

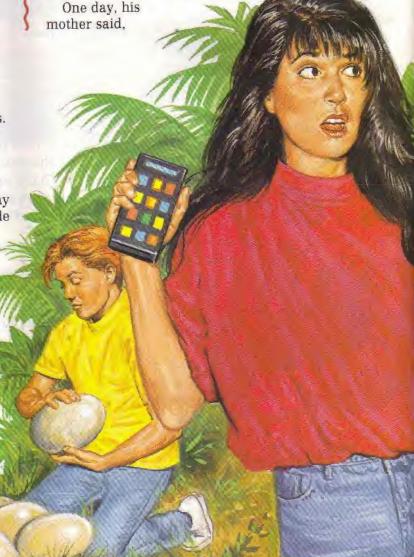
near his radiator, so it would be warm.

That evening, Sean's mother said, "What's in that box in your room?"

"Oh," said Sean, "I'm trying to hatch an egg."
"Is it a science project?" his mother asked.

"Sort of," replied Sean.

Alligator eggs needed wet heat. So Sean brought the box into the bathroom and ran the shower twice a day. The bathroom got as steamy as a rain forest.



"You're taking a lot of showers, Sean. Why is that?" Sean stammered, "I've been getting a lot dirtier than usual."

His mother looked at him strangely.

#### **Secrets Secrets**

Sean was still afraid to tell Jenny about the egg. She'd put him down in a major way. But he was having trouble keeping the secret to himself. A few weeks later, Jenny came over to help Sean with his math homework. She spotted the box that held the egg. "What's in there?" she asked.

"Ahh, er, nothing. It's empty."

Jenny knew when Sean was lying. He always scratched the back of his head. He was doing that now. "I'm taking a look." She reached for the box.

Sean panicked. "Don't touch it. It's...it's...your

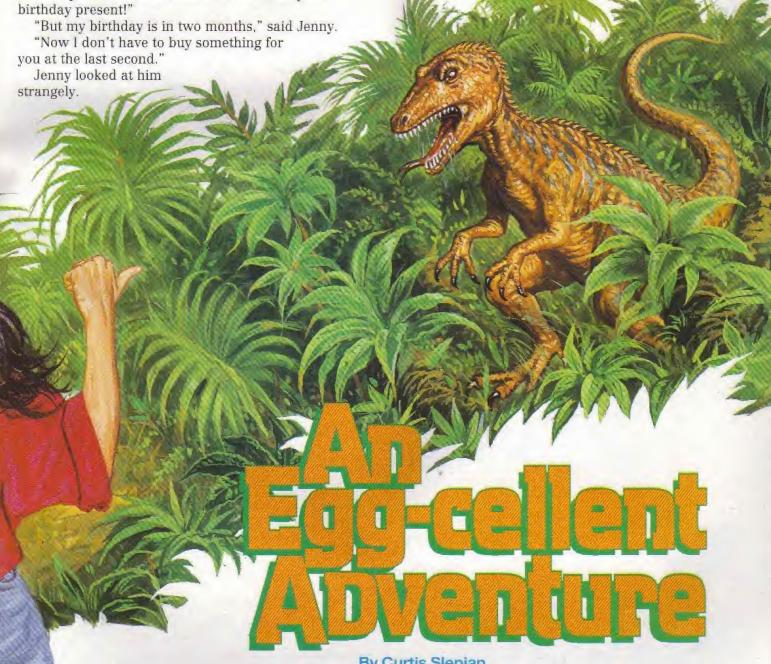
Sean kept up his shower routine for another week. Then, one morning, he noticed a tiny crack in the egg. As he watched, the crack grew.

Suddenly, a tiny head poked out through the widening hole. Sean was so excited, he wanted to yell for his parents to see this. But he couldn't. They didn't know about the tachyon machine. No one did-except him and Jenny.

The tiny creature pushed its way out of the egg. It had a long neck and tail. Instead of legs, it had two tiny flippers on each side of its body. Bits of shell were stuck to its back. Sean gently removed them.

"What do I do now?" thought Sean. "I guess I've got to take care of it. But how?"

First, Sean 🖙



found it a bigger box. Then he filled it with more plants and a tray of water. The baby prehistoric creature crawled right into the water. Next to the tray, Sean put different foods: a tomato, a donut and bits of a leftover fish sandwich.

The animal sniffed the food. Finally, it nibbled at

the fish sandwich.

"Okay, guy. I've got to give you a name. How about Wally?" Over the next few days, Sean fed Wally tuna fish, anchovies and shrimp salad. Wally spent all its time sitting in the water tray.

Wally grew fast. After a week, it was six inches

long. Sean had to get it a bigger tray.

Then one evening, Sean took a bath. Hearing a sound, Sean looked over the side of the tub and saw Wally staring at him. Sean picked Wally up. The creature wriggled out of his hands and jumped into the water. It started swimming around.

#### **Wally the Wonder**

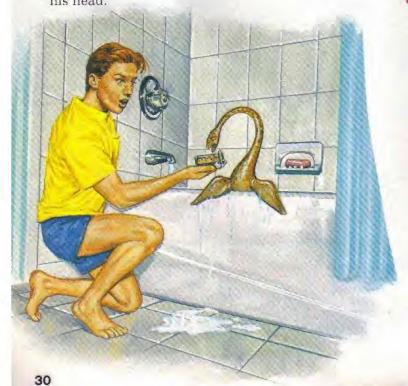
Wally now spent all day splashing in the bathtub, which Sean kept half filled. Sean had been worried that his parents would discover Wally in his room. So he told them that a small reptile had hatched from the egg. But he didn't want them to go in and look at it, because the reptile got very nervous around people.

"Don't worry," assured Sean. "I'll clean up my room every day. And by the way, can I have sardines for lunch?" His parents looked at him strange-

ly—their son was becoming weird.

Sean began to wonder exactly what Wally was. So he went to Jenny's house to borrow a dinosaur book. She was suspicious. "What do you want it for?"

"I need it for homework," Sean replied, scratching his head.



"We're not doing dinosaurs this term."
"Okay, okay. I'm interested in knowledge
for its own sake."

Now Jenny was twice as suspicious.

Sean identified the dinosaur from the book. Only it wasn't a dinosaur. Wally probably was a prehistoric reptile called an Elasmosaurus. It lived about 65 million years ago. Elasmosaurus grew to 43 feet and lived in the water.

Right now, Wally was only a foot long. But Sean realized he couldn't keep it in his room much longer. Eventually, his parents would find it. Plus, Wally had sharp teeth. It was beginning to bite. Sean muttered, "What am I going to do with you?"

Then he figured out the answer: Return Wally to

prehistoric times.

Next day, Sean asked Jenny if he could borrow her time machine. "No way," she said. "Unless you tell me why." Sean couldn't keep the secret to himself any longer. He said, "Come over to my house."

When Jenny entered Sean's room, she saw Wally and shrieked, "Where'd you get that?" Sean

explained what had happened.

Jenny said, "You raised it by yourself? You're not

as dumb as you look."

"Thank you," said Sean. It wasn't much of a compliment—but he'd take it.

#### Birth of a Legend

"Well, let's take Wally home, give or take a few million years." Jenny pulled out her tachyon machine and pressed the button. Instantly, the teens and Wally were in a broiling desert. She pressed the button again, returning all three to Sean's house. "That didn't work. I'll try again." Next they were in the middle of the Battle of New Orleans, in 1814. "Nope," muttered Jenny.

On the third try, the machine beamed them to a big lake surrounded by green mountains. "I don't think we're in prehistoric times," said Jenny. But before she could hit the button, Wally waddled away. It headed, surprisingly fast, towards the lake. "Hey, catch him!" shouted Jenny. Sean ran after the dino, but it was too late. Wally had plunged into the water! A minute later, they saw its head rise from the middle of the lake.

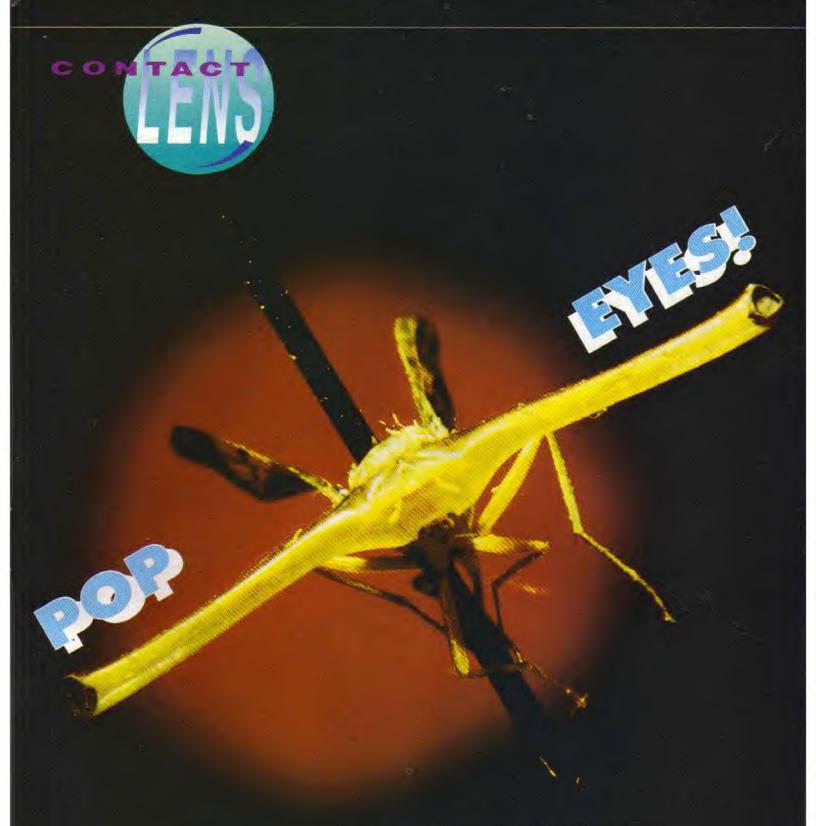
"I'll never be able to catch him," said Sean. "At least he found an excellent place to live."

As they got ready to leave, they spotted a small arrow-shaped sign pointing at the lake. The teens looked at it.

"I don't believe it!" gasped Sean. "Wally is

Jenny nodded. "So the legend is true. There is a monster living in this lake in Scotland! And it's our fault!"

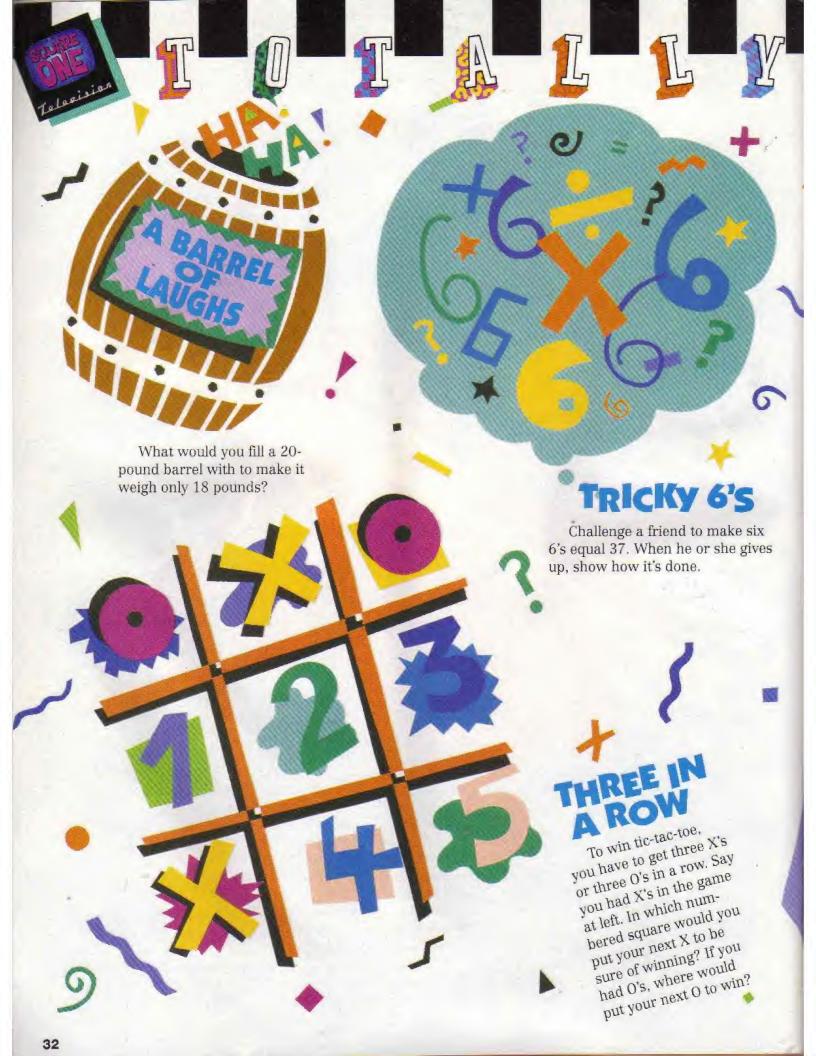
The sign said "Loch Ness."



Jeepers! Creepers! Check out these peepers. A stalk-eyed fly can see what's coming...and going. Its eyes stick out so far that it can see what's in front of it and behind it.

Scientists say the stalk-eyes also make the males look big and tough, which makes the females go buggy over them.

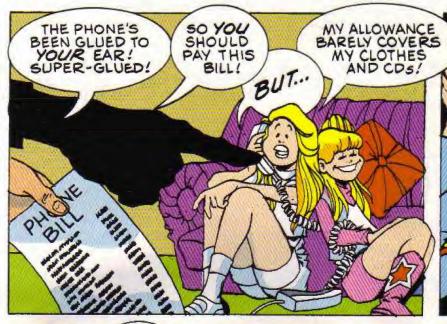
And the male stalk-eyed flies *are* tough. To compete for female flies, the males butt heads and push each other back and forth. So these guys have to be head strong!





















PAGE!

Special Marning!
THIS
PUZZILE
MIGHT
MAKE YOU
HUNGRY

The photos of this breakfast feast are scrambled. Can you put them in the right order, so they show the meal from beginning to end? (Hint: Look at what has been eaten and drunk.)

The answer is served on the Did It page.













# CONTEST

#### JUST REWARDS

#### The Contest:

To enter this contest, you'll have to do some detective work. But first, read the case below to get the facts.

Two puppies were stolen from Peeve's Pets last Monday at 9 p.m. A reward is being offered to the person who witnessed the robbery. Darren, Maureen and Janelle all claim they saw the robbery. But only one of them really did see the crime take place. (The other two are lying.) Study the picture below and read each witness's story. Then decide who is telling the truth. That person deserves the reward.

MAUREEN

#### To Enter:

On a postcard or in a letter, write the name of the person who should get the reward and *explain why*. Be sure to include your name, address and age.

Send it to: Just Rewards

3-2-1 CONTACT Magazine P.O. Box 40

Vernon, NJ 07462

In case of a tie, winners will be chosen by a drawing. All entries must be postmarked by April 10, 1993.

#### Electronic Casio

Keyboard

#### Second Prize:

3-D Jigsaw Puzzle

#### Third Prize:

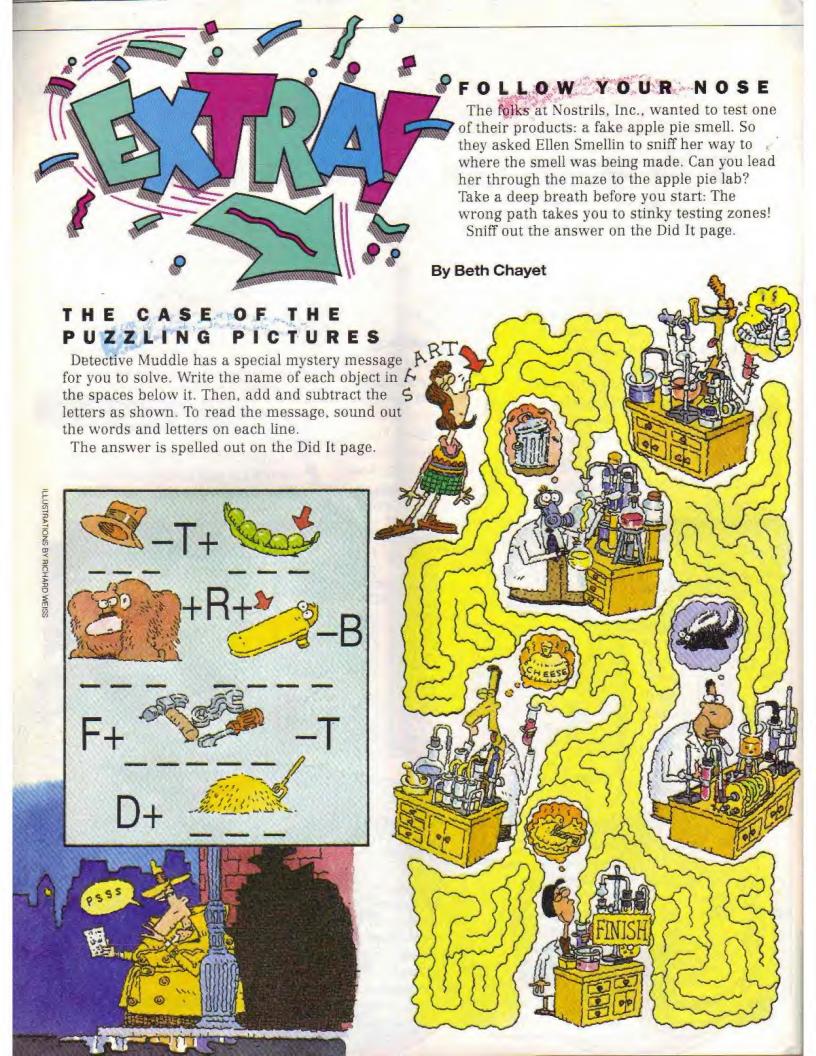
Dinosaur Egg Soap

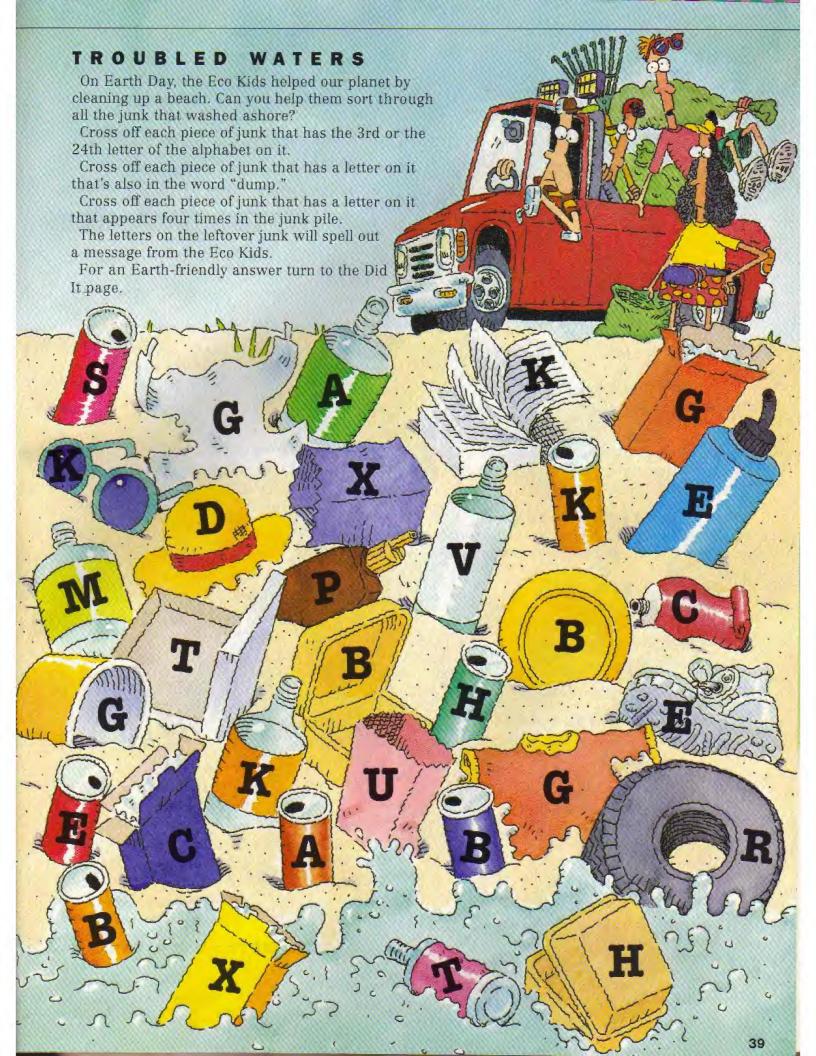
Five runners-up: A 3-2-1 CONTACT Contest entries become the property of CTW and cannot be returned. The decision of the judges is final.

DARREN



a crate."







#### A BARREL OF LAUGHS

To make it weigh less, add holes!

TRICKY 6'S

 $(6x6) + \left(\frac{66}{66}\right) = 37$ 

A PIECE OF CAKE

One slice is leftover.

#### BREAK THE BANK

The second piggy bank hanging from the left has the prize inside. It's the only bank that's missing from the case.

#### THREE IN A ROW

Putting an X in square four makes you a winner. Putting an O in square five is also a winning move.

#### FOOL HOUSE

No. They don't have enough money to pay for their lunch. Their order came to \$10.77. And they only had \$10.00.

#### SPECIAL OFFER

The correct order is: D, F, A, E, C, B.

#### FOLLOW YOUR NOSE



#### THE CASE OF THE PUZZLING PICTURES

The secret message is: Happy April Fools!

#### TROUBLED WATERS

The letters spell out: Save the Earth

X

7

+

RES

×

38

do

#### NEXT MONTH

Here's a sneak preview of the May issue of CONTACT. It's going to be great—no maybe's about it!

#### E.T., PHONE EARTH

"Hello. Is anybody out there?" NASA thinks there might be intelligent life in outer space. Find out how they're listening for aliens. And what may happen if NASA does make contact.

#### SEEING RED

This red-hot feature is all about the color red and why it's so important to many animals. Get "red-dy" to see some amazingly colorful creatures.

#### GET DISKED!

Hey, video-masters. Take a look at the newest wave in video games. It's the CD-ROM, and it'll jolt your joystick!

#### PLUS

CONTACT CONTEST

FACTOIDS

do

THE TIME TEAM

AND MUCH, MUCH MORE!

40



#### Catch a Rainbow

Fuzzy B and Hubba Cub are a couple of totally rad rappers. They are making major waves in the music industry with their latest smash hit, "Rainbow Rap." Here are the lyrics. Check it out!

Pink, orange, yellow, green, blue and purple, ya know what I mean? Rainbow colors so bright, you will think, it's out of sight!

It's the Rainbow Rap™ and I'm tellin' you, if you can catch a rainbow, you'll be cool!



YOU GOTTA HAVE IT!®

Find Fuzzy B and Hubba Cub on Lisa Frank products at Food, Drug, Toy and Discount Department Stores.

# BURT REYNOLDS

One kid's fantasy.
One cop's nightmare.

COP

PG PARENTAL SUIDANCE SUGGESTED

ON TO A THEATHE O

IMENT PRESENTS "COP AND A HAV

EAR YOU

A UNIVERSAL RELE

UNIVERSA